

Amendments to the Claims

The following listing of claims replaces all prior versions and listings of claims in this application:

Listing of Claims

1. (currently amended) An ablation catheter for treating tissue, the ablation catheter comprising
a porous conductor adapted to deliver therapeutic energy; and
a catheter shaft having a proximal portion and a distal portion, wherein said distal portion comprises
at least one lumen adapted to carry wires, optical fibers, and fluids for a variety of functional purposes, wherein said porous conductor is attached within said at least one lumen; and
an active region, wherein said active region includes a plurality of portholes adapted to introduce the therapeutic energy from said porous conductor to the tissue, and wherein said active region has a cross-sectional configuration that includes a flattened outer peripheral wall.
2. (original) The ablation catheter of claim 1, wherein said catheter shaft is constructed from a polymer, and wherein said porous conductor is constructed from metal mesh.
3. (previously presented) The ablation catheter of claim 1, wherein said at least one lumen comprises at least a first lumen, wherein said first lumen is adapted to carry a conductive fluid medium from said proximal portion to said plurality of portholes along said active region, wherein said porous conductor is attached within said first lumen over said plurality of portholes, and wherein said porous conductor is adapted to supply the therapeutic energy to the tissue through said conductive fluid medium.

4. (currently amended) The ablation catheter of claim 1 [3], wherein said distal portion has an outer peripheral wall, wherein said active region has a longitudinal axis, and wherein said plurality of portholes are arranged along a porthole centerline extending along said outer peripheral wall parallel to said longitudinal axis of said active region.

5. (currently amended) The ablation catheter of claim 1 [3], wherein said at least one lumen further comprises a second lumen, and wherein a shape retention wire is mounted in said second lumen.

6. (currently amended) The ablation catheter of claim 23 [5], wherein said shape retention means comprises [wire is] a Nitinol wire.

7. (currently amended) The ablation catheter of claim 23 [3], wherein said shape retention means comprises a [at least one lumen further comprises a second lumen, and wherein] super elastic wire [is mounted in said second lumen].

8. (original) The ablation catheter of claim 1, wherein said porous conductor is a metal mesh electrode.

9. (original) The ablation catheter of claim 1, wherein said catheter shaft has a cross-sectional configuration that includes at least one thickened areas.

10. (canceled)

11. (currently amended) An ablation catheter for treating tissue, the ablation catheter comprising
a catheter shaft, said catheter shaft comprising

a proximal portion;
a distal portion, said distal portion being adapted to be inserted into a body cavity having tissue to be ablated, said distal portion comprising a looped structure transverse to a longitudinal axis of said catheter shaft, and said distal portion comprising an active region including at least one porthole adapted to deliver a conductive fluid medium to the tissue; and
a first lumen extending from said proximal portion to said distal portion, said first lumen being adapted to carry said conductive fluid medium from said proximal portion to said at least one porthole along said active region of said distal portion; and
a mesh electrode mounted within said first lumen over said at least one porthole and extending along said active region of said distal portion, wherein said mesh electrode is adapted to supply ablation energy to the tissue through the conductive fluid medium.

12. (currently amended) The ablation catheter of claim 1 [11], wherein said distal portion is straight.

13. (canceled)

14. (currently amended) The ablation catheter of claim 11 [13], wherein said distal portion comprises a first curved section, a second curved section, and a third curved section, and wherein said third curved section defines said looped structure and said active region.

15. (currently amended) The ablation catheter of claim 14, wherein said at least one porthole comprises a plurality of portholes arranged along a porthole centerline, and wherein said looped structure [distal portion] has an outer peripheral wall, and wherein said active region is along a radial apex of said outer peripheral wall, along said porthole centerline.

16. (currently amended) The ablation catheter of claim 11 [13], wherein said catheter shaft is a braided shaft.

17. (currently amended) An ablation catheter for ablating tissue, the ablation catheter comprising

a catheter shaft, said catheter shaft comprising

a proximal portion;

a distal portion comprising at least one curved section adapted to be inserted into a body cavity having tissue to be ablated, wherein said at least one curved section defines an inner peripheral wall and an outer peripheral wall, and wherein said outer peripheral wall has an active region that includes a plurality of portholes;

a first lumen extending from said proximal portion to said distal portion, said first lumen being adapted to carry a conductive fluid medium from said proximal portion to said portholes along said active region of said distal portion; and

a second lumen extending adjacent to said inner peripheral wall;

a mesh electrode mounted within said first lumen over said plurality of portholes and extending along said active region of said distal portion, wherein said mesh electrode is adapted to supply ablation energy through the conductive fluid medium; and

a shape retention means [wire] mounted in said second lumen for biasing said distal portion toward a predetermined shape.

18. (currently amended) The ablation catheter of claim 11 [any one of claims 1, 11, and 17], wherein said distal portion has a cross-sectional configuration along said active region, and wherein said cross-sectional configuration is adapted to bias said active region against the tissue.

19. (original) The ablation catheter of claim 18, wherein said cross-sectional configuration along said active region is a polygonal configuration having a flattened outer peripheral wall.

20. (original) The ablation catheter of claim 19, wherein said polygonal configuration is selected from the group consisting of a D-shaped configuration, a triangular configuration, and a rectangular configuration.

21. (new) The ablation catheter of claim 1, wherein said cross-sectional configuration of said active region is a polygonal configuration having said flattened outer peripheral wall.

22. (new) The ablation catheter of claim 21, wherein said polygonal configuration is selected from the group consisting of a D-shaped configuration, a triangular configuration, and a rectangular configuration.

23. (new) The ablation catheter of claim 1, wherein said at least one lumen further comprises a second lumen, and wherein a shape retention means for biasing said distal portion toward a predetermined shape is mounted in said second lumen.

24. (new) The ablation catheter of 17, wherein said distal portion has a cross-sectional configuration along said active region, and wherein said cross-sectional configuration is adapted to bias said active region against the tissue.

25. (new) The ablation catheter of claim 24, wherein said cross-sectional configuration along said active region is a polygonal configuration having a flattened outer peripheral wall.

26. (new) The ablation catheter of claim 25, wherein said polygonal configuration is selected from the group consisting of a D-shaped configuration, a triangular configuration, and a rectangular configuration.